

This listing of claims will replace all prior versions, and listings, of claims in the Application.

LISTING OF CLAIMS:

Claims

1. (original) A method of creating a pathway in a tract of an animal, useful in association with a catheter having a tube coupled to a membrane initially positioned substantially inside the tube, the method comprising:
 - inserting the tube into a tract of the animal; and
 - extending the membrane from an opening in the tube and into the tract, thereby creating the pathway in the tract, and wherein the membrane is extended in the tract without sliding action between the membrane and the tract, and wherein the membrane is configured to herniate when the membrane encounters an obstruction in the tract, thereby clearing the obstruction and enabling the membrane to continue to extend.
2. (original) The method of claim 1 wherein the extension of the membrane is caused by pressure.
3. (original) The method of claim 1 wherein the tract is the cervical tract of the animal.
4. (currently amended) The method of claim 3 wherein the animal is a pig sow.
5. (original) The method of claim 1 wherein the tube has a nozzle located at the opening of the tube.
6. (original) The method of claim 1 wherein the membrane wall thickness is tapered.
7. (original) The method of claim 3 further comprising depositing genetic material into the animal.
8. (original) A catheter useful for creating a pathway in a tract of an animal, the catheter comprising:
 - a tube configured to be inserted into the tract of the animal; and
 - a membrane initially positioned inside the tube, the membrane configured to extend from an opening in the tube and into the tract, wherein the membrane extends without sliding action between

the membrane and the tract and wherein the membrane wall thickness is tapered away from the tube opening.

9. (original) The catheter of claim 8 wherein the membrane has an open tip.
10. (original) The catheter of claim 8 wherein the membrane has a closed tip.
11. (original) The catheter of claim 8 wherein the extension of the membrane is caused by pressure.
12. (original) The catheter of claim 8 wherein the tract is the cervical tract of the animal.
13. (original) The catheter of claim 10 wherein the animal is a sow.
14. (original) The catheter of claim 8 wherein the tube has a nozzle located at the opening of the tube.
15. (original) The catheter of claim 8 wherein the nozzle has a positioning ring configured to mate with a corresponding positioning ring on the tube.
16. (original) The catheter of claim 10 wherein the membrane is configured to deposit genetic material into the animal.
17. (new) The catheter of claim 8 wherein the membrane wall thickness is tapered toward the furthestmost point of deployment.
18. (new) The catheter of claim 8 wherein the membrane wall thickness is tapered toward the opening in the tube.
19. (new) A method of creating a pathway in a tract of a mammal, useful in association with a catheter having a tube coupled to a membrane initially positioned substantially inside the tube, the method comprising:
 - inserting the tube into a tract of the mammal; and
 - extending the membrane from an opening in the tube and into the tract, thereby creating the pathway in the tract, and wherein the membrane is extended in the tract without sliding action

between the membrane and the tract, and wherein the membrane is configured to herniate when the membrane encounters an obstruction in the tract, thereby clearing the obstruction and enabling the membrane to continue to extend.

20. (new) The method of claim 19 wherein the mammal is a human.
21. (new) A method of creating a pathway in a tract of a mammal, comprising the steps of:
- a) inserting a catheter into a tract of a mammal, said catheter comprising:
 - a tube having a proximal end opening for the introduction of a desired fluidic material into said tube, and a distal end opening for discharge of said fluidic material; and,
 - a thin flexible membrane initially positioned to extend inside said tube from a first end securely affixed to said tube in the vicinity of said distal end opening of said tube, said first end of said membrane defining a first end opening in fluid communication with said distal end opening of said tube, said membrane having a second opening at a distal tip thereof, said membrane wall thickness being tapered to herniate as desired; and,
 - b) introducing fluidic material into said tube via said proximal end opening of said tube, the pressure of the fluid's introduction into said tube causing said flexible membrane to incrementally pass through the distal end opening of the tube so as to unfold in an inside out manner and extend within the tract releasing fluidic material through said opening at said distal tip.
22. (new) The method of Claim 21, wherein said step of inserting a catheter comprises inserting a catheter having a membrane with a membrane wall thickness being tapered toward the opening in the tube.
23. (new) The method of Claim 21, wherein said step of inserting a catheter comprises inserting a catheter having a membrane with a membrane wall thickness being tapered toward the furthestmost point of deployment.
24. (new) The method of Claim 21, wherein said step of inserting a catheter into a tract comprises inserting said catheter in the reproductive tract.
25. (new) The method of Claim 21, wherein said step of inserting a catheter into a tract comprises inserting said catheter in the respiratory tract.

26. (new) The method of Claim 21, wherein said step of inserting a catheter into a tract comprises inserting said catheter in the circulatory tract.
27. (new) The method of Claim 21, wherein said step of inserting a catheter into a tract comprises inserting said catheter in the digestive tract.
28. (new) The method of Claim 21, wherein said step of inserting a catheter into a tract comprises inserting said catheter in the reproductive tract of a pig.
29. (new) The method of Claim 21, wherein said step of introducing fluidic material into said tube causing said flexible membrane to incrementally pass through the distal end opening of the tube so as to unfold in an inside out manner minimizes sliding action between said membrane and said tract during the unfolding.
30. (new) The method of Claim 21, wherein said fluidic material is released through said opening at said distal tip when the membrane becomes fully extended.
31. (new) The method of Claim 15, wherein said fluidic material is released through said opening at said distal tip when the membrane becomes fully extended into a uterus.
32. (new) A catheter useful for creating a pathway in a tract of a mammal for the introduction of a desired fluidic material, the catheter comprising:

a tube configured to be inserted into a tract of a mammal, said tube having a proximal end opening for the introduction of a desired fluidic material into said tube, and a distal end opening for discharge of said fluidic material; and,

a thin flexible membrane initially positioned to extend inside said tube from a first end securely affixed to said tube in the vicinity of said distal end opening of said tube, said first end of said membrane defining a first end opening in fluid communication with said distal end opening of said tube, said membrane having a second opening at a distal tip thereof, said membrane wall thickness being tapered wherein during operation of said catheter the tube is inserted to a desired

location in the tract of the mammal and the fluidic material is then introduced into said tub via said proximal end opening of said tube, the pressure of the fluid's introduction into said tube causing said flexible membrane to incrementally pass through the distal end opening of the tube so as to unfold in an inside out manner and extend within the tract, releasing fluidic material through said opening at said distal tip, the tapering of the membrane wall providing herniation of the membrane wall as desired.

- 33. (new) The catheter of Claim 32, wherein said catheter comprises inserting a catheter having a membrane with a membrane wall thickness being tapered toward the opening in the tube.
- 34. (new) The method of Claim 32, wherein said catheter comprises inserting a catheter having a membrane with a membrane wall thickness being tapered toward the furthestmost point of deployment.
- 35. (new) The catheter of Claim 32, wherein said tube is configured to be inserted in a reproductive tract.
- 36. (new) The catheter of Claim 32, wherein said tube is configured to be inserted in a respiratory tract.
- 37. (new) The catheter of Claim 32, wherein said tube is configured to be inserted in a circulatory tract.
- 38. (new) The catheter of Claim 32, wherein said tube is configured to be inserted in a digestive tract.
- 39. (new) The catheter of Claim 32, wherein said tube is configured to be inserted in a reproductive tract of a pig.
- 40. (new) The catheter of Claim 32, wherein said tube is configured to be inserted in a reproductive tract and said membrane may be fully extended into the uterus.
- 41. (new) The catheter of Claim 32, wherein said tube and said membrane are configured so that the membrane unfolds in a manner that minimizes sliding action between said membrane and said

tract during the unfolding.

42. (new) The catheter of Claim 32, wherein said tube and said membrane are configured so that fluidic material is released through said opening at said distal tip step when the membrane becomes fully extended.
43. (new) The catheter of Claim 32, wherein said membrane is formed of latex.
44. (new) A method of creating a pathway in a tract of an animal, comprising the steps of:
- a) inserting a catheter into a tract of an animal, said catheter comprising:
 - a tube having a proximal end opening for the introduction of a desired fluidic material into said tube, and a distal end opening for discharge of said fluidic material; and,
 - a thin flexible membrane initially positioned to extend inside said tube from a first end securely affixed to said tube in the vicinity of said distal end opening of said tube, said first end of said membrane defining a first end opening in fluid communication with said distal end opening of said tube, said membrane having a second opening at a distal tip thereof, said membrane wall thickness being tapered to herniate as desired; and,
 - b) introducing fluidic material into said tube via said proximal end opening of said tube, the pressure of the fluid's introduction into said tube causing said flexible membrane to incrementally pass through the distal end opening of the tube so as to unfold in an inside out manner and extend within the tract releasing fluidic material through said opening at said distal tip.
45. (new) The method of Claim 44, wherein said step of inserting a catheter comprises inserting a catheter having a membrane with a membrane wall thickness being tapered toward the opening in the tube.
46. (new) The method of Claim 44, wherein said step of inserting a catheter comprises inserting a catheter having a membrane with a membrane wall thickness being tapered toward the furthestmost point of deployment.
47. (new) A catheter useful for creating a pathway in a tract of an animal for the introduction of a desired fluidic material, the catheter comprising:

a tube configured to be inserted into a tract of a animal, said tube having a proximal end opening for the introduction of a desired fluidic material into said tube, and a distal end opening for discharge of said fluidic material; and,

a thin flexible membrane initially positioned to extend inside said tube from a first end securely affixed to said tube in the vicinity of said distal end opening of said tube, said first end of said membrane defining a first end opening in fluid communication with said distal end opening of said tube, said membrane having a second opening at a distal tip thereof, said membrane wall thickness being tapered wherein during operation of said catheter the tube is inserted to a desired location in the tract of the animal and the fluidic material is then introduced into said tub via said proximal end opening of said tube, the pressure of the fluid's introduction into said tube causing said flexible membrane to incrementally pass through the distal end opening of the tube so as to unfold in an inside out manner and extend within the tract releasing fluidic material through said opening at said distal tip, the tapering of the membrane wall providing herniation of the membrane wall as desired.

48. (new) The catheter of Claim 47, wherein said catheter comprises inserting a catheter having a membrane with a membrane wall thickness being tapered toward the opening in the tube.

49. (new) The method of Claim 47, wherein said catheter comprises inserting a catheter having a membrane with a membrane wall thickness being tapered toward the furthestmost point of deployment.

50. (new) A container assembly useful for creating a pathway in a tract of a mammal for the introduction of a desired fluidic material, the catheter comprising:

a container configured to be inserted into a tract of a mammal, said container for containing a desired fluidic material, said container having a closed proximal end, and a distal end opening for discharge of said fluidic material;

a thin flexible membrane initially positioned to extend inside said container from a first end securely affixed to said container in the vicinity of said distal end opening of said container, said first end of said membrane defining a first end opening in fluid communication with said distal end opening of said container, said membrane having a second opening at a distal tip thereof, said membrane wall thickness being tapered, wherein during operation of said container the tube is

inserted to a desired location in the tract of the mammal and the fluidic material is then introduced into said container via said proximal end opening of said container, the pressure of the fluid's introduction into said container causing said flexible membrane to incrementally pass through the distal end opening of the container so as to unfold in an inside out manner and extend within the tract, releasing fluidic material through said opening at said distal tip, the tapering of the membrane wall providing herniation of the membrane wall as desired.